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(54) Title: METHODS OF PREPARATION OF LIVE ATTENUATED BACTERIAL VACCINES BY ALTERATION OF DNA ADENINE METHYLASE (DAM) ACTIVITY IN THOSE BACTERIA



(57) Abstract: Live attenuated bacteria vaccines are provided. Also provided are methods by which such vaccines can be obtained, including: a method by which a copy of the *dam* gene from a pathogenic bacteria is cloned into a plasmid capable of replication in the same bacteria species such that it is overexpressed from either a *lac* promoter, *tac* promoter, *araBAD* promoter, *trc* promoter, *trp* promoter, T7, SP6, or T5 bacteriophage promoters, a native promoter from that species, or other appropriate promoter. The plasmid containing the *dam* gene is then transferred into the pathogens to cause increased expression of Dam resulting in the formation of a live attenuated bacterial vaccines. Alternative methods for producing the vaccine are also provided including altering or replacing the chromosomal promoter for the native *dam* gene so as to alter Dam expression or mutating or replacing the native *dam* gene so as to alter the expression of Dam in a pathogenic bacteria.

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